Nova Scotia

Department of
Mines and Energy

Report 86-3

DRILLING LOGS

OF

GOVERNMENT CORE DRILLS

1985

compiled by

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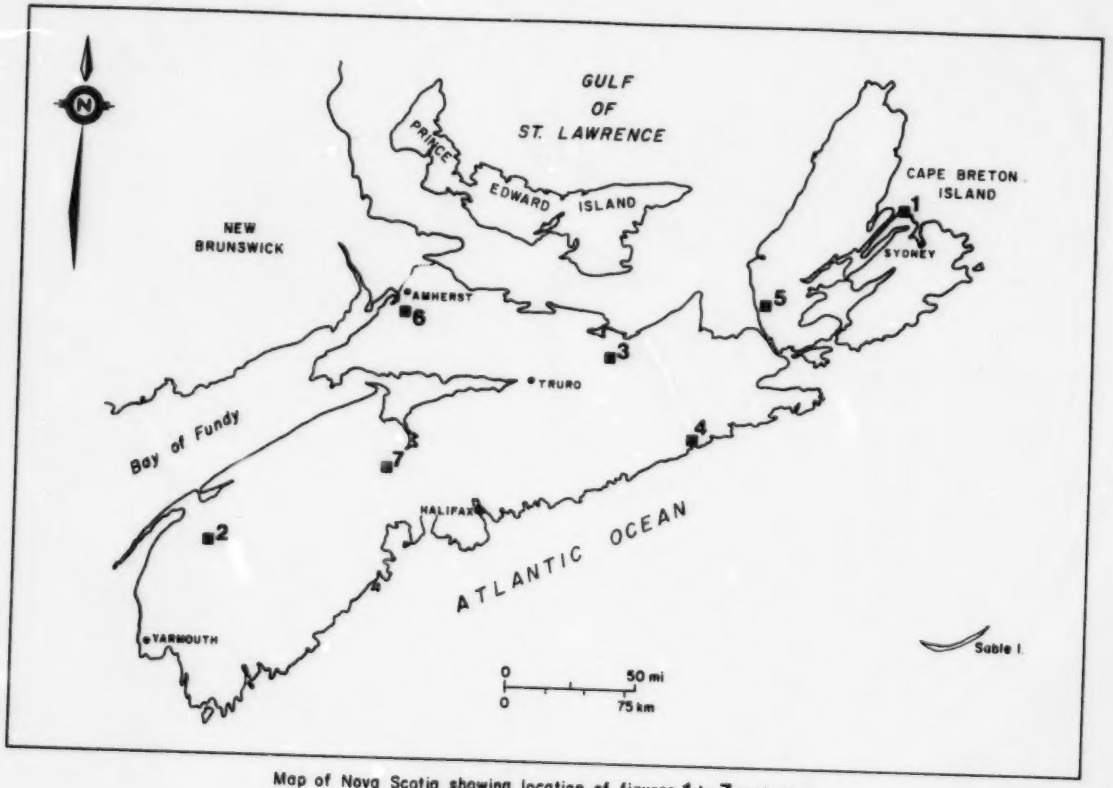
Halifax, Nova Scotia
1986



Map of Nova Scotia showing location of figures **1** to **7** inclusive

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DRILLING LOGS OF GOVERNMENT CORE DRILLS
1985

Ian MacDougall and D. E. Polley***

During the year 1985, the drills were used on Nova Scotia Department of Mines and Energy projects. These included drilling for coal at Point Aconi, Cape Breton County, at Maple Brook, Inverness County and at Springhill, Cumberland County; for geological studies of granite at Big Tom Wallace Lake, Digby County and of gold at Sinclair Lake, Guysborough County; for mineral deposit studies at Dean Chapter Lake, Lunenburg County; and for Carboniferous studies at Island East River, Pictou County and Riverside Corner, Hants County. Drilling began at Riverside Corner on November 19, reaching a depth of 435.6 metres at the end of the year. The intended depth is approximately 1500 metres. The complete drill log is expected to appear in Drilling Logs of Government Core Drills, 1986. In 1985, there were 14 holes drilled totalling 3943 metres.

The authors express appreciation to Mr. Doug MacDonald and Ms. Jennifer Bates for editing this report.

POINT ACONI, CAPE BRETON COUNTY

Drilling was carried out at Point Aconi, Cape Breton County from March 5 to 15, 1985. The work was done in the area of Brogan's open pit and the purpose was to investigate the rock characteristics where blasting had been done. The thickness and depth of coal seams were also determined. Five vertical holes were drilled and are located on Map Sheet 11K/08B (Fig. 1). The surveyed locations of the holes are on file with the Nova Scotia Department of Mines and Energy.

RECORD NO. 7686

Borehole No. SM-24 is in Tract 70, Claim K.

Strata	Thickness (m)	Total Depth (m)
Overburden	5.5	5.5
Sandstone	2.7	8.2
Shale and sandstone	8.4	16.6
Coal	0.8	17.4
Shale and sandstone	4.2	21.6
Coal	1.3	22.9
Shale and sandstone	5.4	28.3

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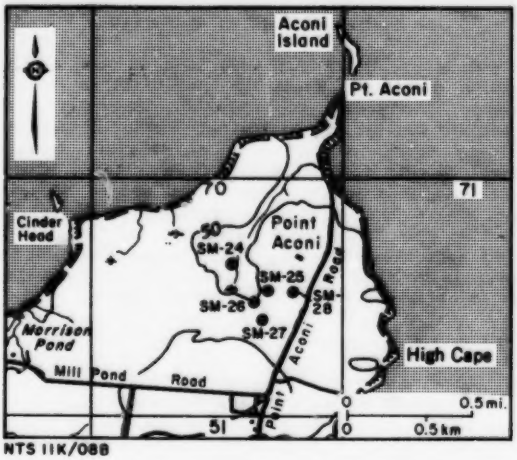


Figure 1. Point Aconi, Cape Breton County.

RECORD NO. 7687

Borehole No. SM-25 is in Tract 70, Claim K.

Strata	Thickness (m)	Total Depth (m)
Overburden	5.5	5.5
Shaly sandstone	2.7	8.2
Coal	0.9	9.1
Shaly sandstone	1.0	10.1
Coal	3.9	14.0
Shaly sandstone	8.3	22.3

RECORD NO. 7688

Borehole No. SM-26 is in Tract 70, Claim G.

Strata	Thickness (m)	Total Depth (m)
Overburden	5.5	5.5
Shaly sandstone	9.7	15.2
Coal	1.0	16.2

(continued)

RECORD NO. 7688 (continued)

Shaly sandstone	2.1	18.3
Coal	1.2	19.5
Shaly sandstone	5.8	25.3

RECORD NO. 7689

Borehole No. SM-27 is in Tract 70, Claim G.

Strata	Thickness (m)	Total Depth (m)
Overburden	3.7	3.7
Shaly sandstone	1.2	4.9
Coal	0.9	5.8
Shaly sandstone	6.1	11.9
Coal	1.2	13.1
Shaly sandstone	6.1	19.2

RECORD NO. 7690

Borehole No. SM-28 is in Tract 70, Claim J.

Strata	Thickness (m)	Total Depth (m)
Overburden	5.5	5.5
Shaly sandstone	24.1	29.6
Coal	0.9	30.5
Sandstone and shale	3.9	34.4

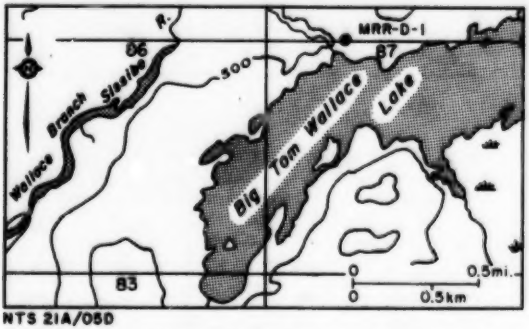
BIG TOM WALLACE LAKE, DIGBY COUNTY

Drilling was carried out at Big Tom Wallace Lake, Digby County from February 22 to October 3, 1985. During this period, a hole was drilled to a depth of 1439 metres. The purpose of drilling was for geological studies of granite. The hole is vertical and is located on Map Sheet 21A/05D (Fig. 2). The surveyed location of the hole is on file with the Nova Scotia Department of Mines and Energy.

RECORD NO. 7691

Borehole No. MRR-D-1 is on Tract 86, Claim O.

Strata	Thickness (m)	Total Depth (m)
Overburden	6.7	6.7
Granite, soft core at 82.4	147.7	154.4
Granite, grey	1291.3	1439.0

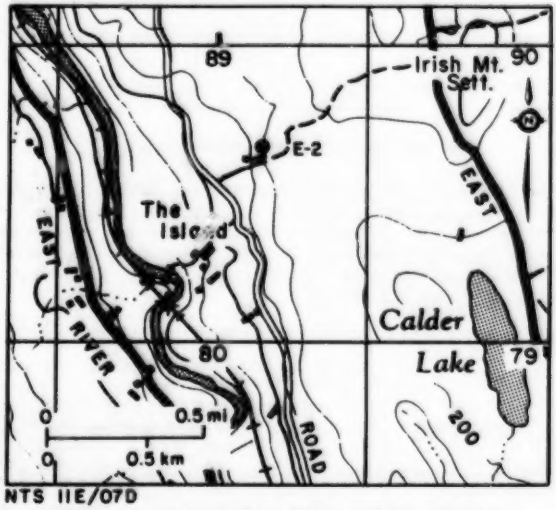


NTS 21A/05D

Figure 2. Big Tom Wallace Lake, Digby County.

ISLAND EAST RIVER, PICTOU COUNTY

From March 25 to May 31, 1985, a hole was drilled to a depth of 535.2 metres at Island East River, Pictou County. The purpose of drilling was for Carboniferous studies. The hole is vertical and is located on Map Sheet 11E/07D (Fig. 3). The surveyed location of the hole is on file with the Nova Scotia Department of Mines and Energy.



NTS 11E/07D

Figure 3. Island East River, Pictou County.

RECORD NO. 7692

Borehole No. E-2 is on Tract 89, Claim K.

Strata	Thickness (m)	Total Depth (m)
Sand and redbeds	5.0	5.0
Redbeds, red and grey	10.0	15.0
Sandstone and shale, red	12.0	27.0
Limestone, grey and red	15.0	42.0
Sandstone and shale, red	93.0	135.0
Mudstone and shale, red	102.0	237.0
Mudstone and shale, grey and red	48.0	285.0
Mudstone and shale, red	96.0	381.0
Limestone, grey	9.0	390.0
Mudstone and shale, red	60.0	450.0
Limestone and shale, grey	15.0	465.0
Mudstone, red	3.0	468.0
Mudstone and shale, red	9.0	477.0
Mudstone, red	9.0	486.0
Mudstone and limestone, red and grey	3.0	489.0
Mudstone and clay, grey	12.0	501.0
Mudstone, grey	18.4	519.4
Anhydrite, grey and red	15.2	534.6
Mudstone and shale, grey and red	21.4	556.0
Mudstone and shale, red	79.2	635.2

SINCLAIR LAKE, GUYSBOROUGH COUNTY

From June 10 to August 9, 1985, two holes were drilled at Sinclair Lake, Guysborough County. The purpose of drilling was for geological studies of gold formations. The holes are located on Map Sheet 11E/01A (Fig. 4). The surveyed locations of the holes are on file with the Nova Scotia Department of Mines and Energy.

RECORD NO. 7693

Borehole No. SL-85-1 is in Tract 72, Claim M. The hole is inclined at 60° on a true bearing of 145°.

Strata	Thickness (m)	Total Depth (m)
Overburden, gravel and sand	7.3	7.3
Quartzite, grey	9.7	17.0
Quartz and quartzite, white and grey	30.0	47.0
Quartzite, grey	18.0	65.0
Quartzite and slate, grey	21.0	86.0
Quartz and quartzite, white and grey	105.0	191.0

(continued)

RECORD NO. 7693 (continued)

Quartzite, grey	84.0	275.0
Quartz, grey	18.0	293.0
Quartzite, grey	42.0	335.0

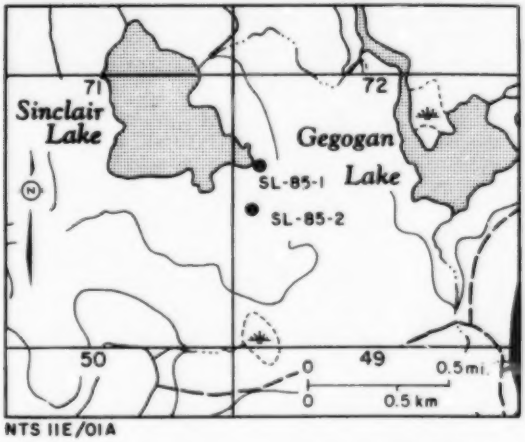


Figure 4. Sinclair Lake, Guysborough County.

RECORD NO. 7694

Borehole No. SL-85-2 is in Tract 72, Claim M. The hole is inclined at 60° on a true bearing of 140°.

Strata	Thickness (m)	Total Depth (m)
Overburden	6.0	6.0
Quartzite, grey and green	5.0	11.0
Quartzite, grey	309.0	320.0

MAPLE BROOK, INVERNESS COUNTY

During the period August 14 to September 12, 1985, drilling was carried out in the Maple Brook area, Inverness County. The purpose of drilling was for coal. Two vertical holes were drilled and are located by Map Reference 11F/14B (Fig. 5). The surveyed locations of the holes are on file with the Nova Scotia Department of Mines and Energy.

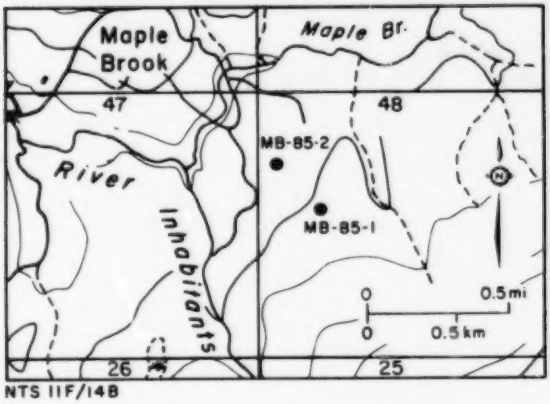


Figure 5. Maple Brook, Inverness County.

RECORD NO. 7695

Borehole No. MB-85-1 is in Tract 48, Claim M.

Strata	Thickness (m)	Total Depth (m)
Overburden and soft shale, red and grey	14.0	14.0
Shale, grey and red	156.0	170.0
Shale, red	143.0	313.0

RECORD NO. 7696

Borehole No. MB-85-2 is in Tract 48, Claim M.

Strata	Thickness (m)	Total Depth (m)
Overburden, grey sand and shale	6.0	6.0
Shale, grey	11.0	17.0
Shale and coaly shale, grey and black	18.0	35.0
Shale, grey and red	116.0	151.0

SPRINGHILL, CUMBERLAND COUNTY

From August 26 to September 26, 1985, a hole was drilled to a depth of 277.7 metres at Springhill, Cumberland County. The purpose of drilling was for coal. The hole is vertical and is located by Map Reference 21H/09D (Fig. 6). The surveyed location of the hole is on file with the Nova Scotia Department of Mines and Energy.

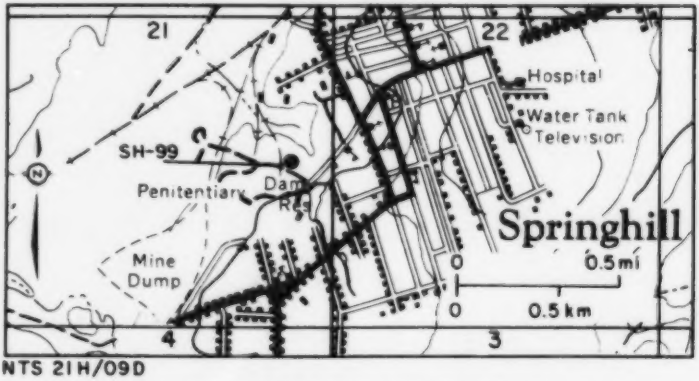


Figure 6. Springhill, Cumberland County.

RECORD NO. 7697

Borehole No. SH-99 is in Tract 21, Claim J.

Strata	Thickness (m)	Total Depth (m)
Dump material	1.2	1.2
Red and grey clay, overburden	4.9	6.1
Shale and sandstone, grey	14.3	20.4
Clay and mudstone	3.1	23.5
Coal	3.3	26.8
Black shale and mudstone	2.8	29.6
Mudstone, grey	27.4	57.0
Mudstone, red and grey	27.4	84.4
Mudstone, grey	39.7	124.1
Mudstone and sandstone	54.8	178.9
Mudstone, grey	35.4	214.3
Coal	1.2	215.5
Mudstone, grey	25.0	240.5
Coal	1.8	242.3
Mudstone, grey	4.6	246.9
Coal and shale	0.9	247.8
Mudstone, grey	14.9	262.7

(continued)

RECORD NO. 7697 (continued)

Coal	1.9	264.6
Mudstone, grey	5.8	270.4
Sandstone, grey	7.3	277.7

DEAN CHAPTER LAKE, LUNENBURG COUNTY

On September 30, 1985, a diamond-drill was moved into the Dean Chapter Lake area, Lunenburg County. At the end of the calendar year, two holes were drilled and a third was started. The purpose of drilling was for mineral deposit studies. The drill log of the third hole is expected to be included in Drilling Logs of Government Core Drills, 1986. The holes are located by Map Reference 21A/16B (Fig. 7). The surveyed locations of the holes are on file with the Nova Scotia Department of Mines and Energy.

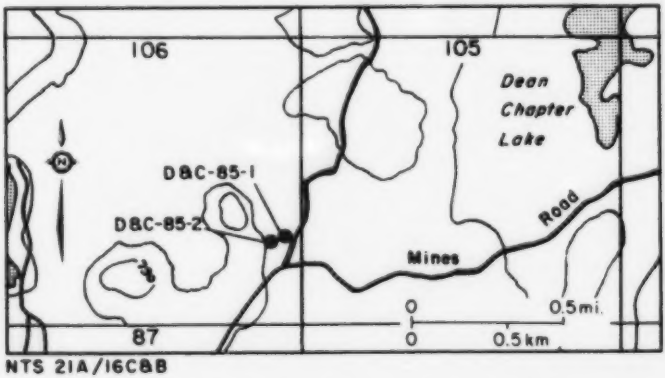


Figure 7. Dean Chapter Lake, Lunenburg County.

RECORD NO. 7698

Borehole No. D and C-85-1 is in Tract 106, Claim H. The hole is inclined at 60° on a true bearing of 152°.

Strata	Thickness (m)	Total Depth (m)
Granite, red and grey	123.4	123.4

RECORD NO. 7699

Borehole No. D and C-85-2 is in Tract 106, Claim H. The hole is inclined at 60° on a true bearing of 153°.

Strata	Thickness (m)	Total Depth (m)
Overburden	1.5	1.5
Granite, grey	192.0	193.5
Granite, rotten, broken grey and pink	9.2	202.7
Granite, rotten, red and grey	15.2	217.9
Granite, grey	1.6	219.5

APPENDIX I

RECORD OF DRILLHOLES

BY

RECORD NUMBER

Record No.	Date of Boring	Object of Boring	Location of Borehole	Depth (m)
7686	1985	Rock characteristics and coal	Point Aconi, Cape Breton County	28.3
7687	1985	Rock characteristics and coal	Point Aconi, Cape Breton County	22.3
7688	1985	Rock characteristics and coal	Point Aconi, Cape Breton County	25.3
7689	1985	Rock characteristics and coal	Point Aconi, Cape Breton County	19.2
7690	1985	Rock characteristics and coal	Point Aconi, Cape Breton County	34.4
7691	1985	Geological information	Big Tom Wallace Lake, Digby County	1439.0
7692	1985	Carboniferous studies	Island East River, Pictou County	635.2
7693	1985	Gold	Sinclair Lake, Guysborough County	335.0
7694	1985	Gold	Sinclair Lake, Guysborough County	320.0
7695	1985	Coal	Maple Brook, Inverness County	313.0
7696	1985	Coal	Maple Brook, Inverness County	151.0
7697	1985	Coal	Springhill, Cumberland County	277.7
7698	1985	Mineral deposit studies	Dean Chapter Lake, Lunenburg County	123.4
7699	1985	Mineral deposit studies	Dean Chapter Lake, Lunenburg County	219.5

APPENDIX II

RECORD OF DRILLHOLES

BY

CLAIM MAP

RECORD OF DRILLHOLES BY CLAIM MAP

CLAIM MAP 11E/01A

Location of Drillhole(s): Sinclair Lake, Guysborough County
Drilling Objective: Gold

Tract 72	Claim(s) M	Record Number(s)	7693
			7694

CLAIM MAP 11E/07D

Location of Drillhole(s): Island East River, Pictou County
Drilling Objective: Carboniferous Studies

Tract 89	Claim(s) K	Record Number(s)	7692

CLAIM MAP 11F/14B

Location of Drillhole(s): Maple Brook, Inverness County
Drilling Objective: Coal

Tract 48	Claim(s) M	Record Number(s)	7695
			7696

CLAIM MAP 11E/08B

Location of Drillhole(s): Point Aconi, Cape Breton County
Drilling Objective: Coal

Tract 70	Claim(s) G, J, K	Record Number(s)	7686
			7687
			7688
			7689
			7690

CLAIM MAP 21A/05D

Location of Drillhole(s): Big Tom Wallace Lake, Digby County
Drilling Objective: Geological Information

Tract 86	Claim(s) O	Record Number(s)	7691

CLAIM MAP 21A/16B

Location of Drillhole(s): Dean Chapter Lake, Lunenburg County
Drilling Objective: Mineral Deposit Studies

Tract 106	Claim(s) H	Record Number(s)	7698
			7699

18 Drilling Logs of Gov't Core Drills, 1985

CLAIM MAP 21E/09D

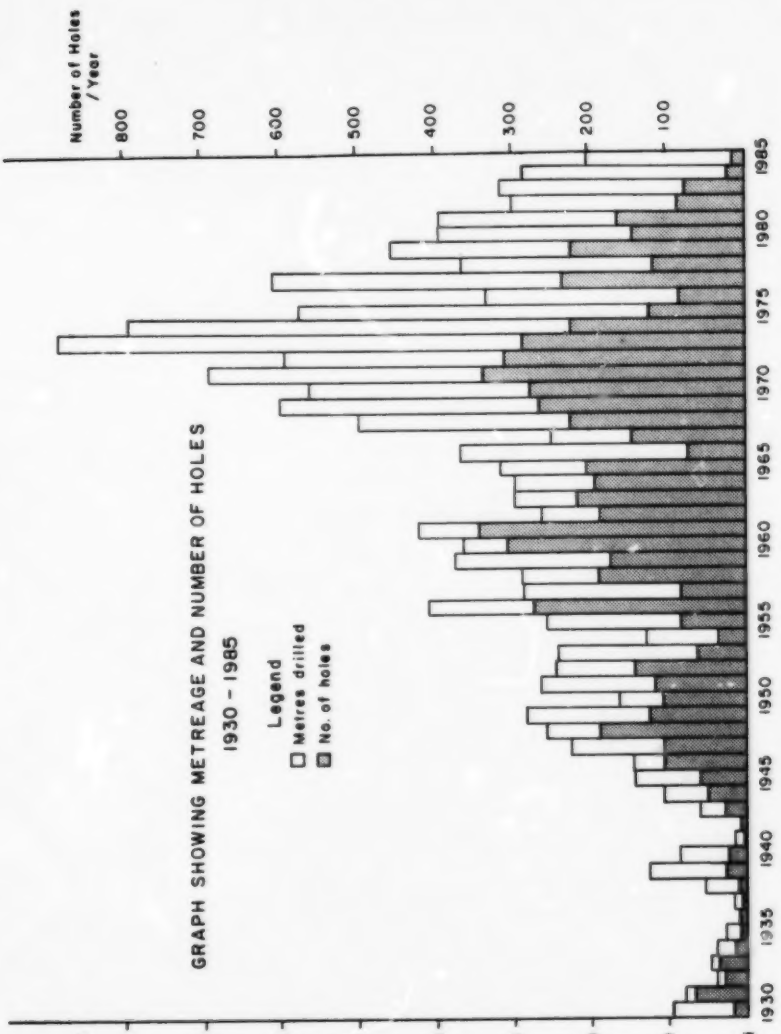
Location of Drillhole(s): Springhill, Cumberland County
Drilling Objective: Coal

Tract 21 Claim(s) J Record Number(s) 7697

APPENDIX III

SUMMARY OF DRILLING

(1930 - 1985)


GRAPH SHOWING METREAGE AND NUMBER OF HOLES
1930 - 1985
Legend
Metres drilled
No. of holes
Metres/Year
Number of Holes / Year
0
2 000
4 000
6 000
8 000
10 000
12 000
14 000
16 000
100
200
300
400
500
600
700
800
1930
1935
1940
1945
1950
1955
1960
1965
1970
1975
1980
1985

Year	No. of Holes	Feet	Metres	Year	No. of Holes	Feet	Metres
1930	18	6,158	1 877	1958	189	18,902	5 761
1931	64	5,235	1 595	1959	171	24,548	7 482
1932	24	2,521	768	1960	307	23,746	7 238
1933	31	3,026	922	1961	343	27,590	8 409
1934	13	2,510	765	1962	187	17,104	5 213
1935	7	1,681	512	1963	216	19,497	5 943
1936	8	476	145	1964	191	19,547	5 958
1937	3	872	266	1965	204	20,690	6 306
1938	9	3,397	1 035	1966	73	24,012	7 319
1939	23	8,097	2 468	1967	145	16,135	4 918
1940	21	5,501	1 677	1968	224	32,659	9 954
1941	2	781	238	1969	265	39,158	11 935
1942	4	429	131	1970	276	36,754	11 202
1943	26	3,811	1 162	1971	337	45,388	13 834
1944	48	6,712	2 046	1972	310	38,830	11 835
1945	60	9,386	2 861	1973	285	57,875	17 640
1946	104	9,393	2 863	1974	223	52,047	15 863
1947	103	14,846	4 525	1975	122	37,623	11 467
1948	188	16,957	5 168	1976	81	21,858	6 662
1949	124	18,494	5 637	1977	234	39,866	12 151
1950	102	10,510	3 203	1978	118	23,836	7 265
1951	115	17,317	5 278	1979	223	29,831	9 092
1952	141	16,095	4 905	1980	142	25,943	7 907
1953	61	15,852	4 832	1981	161	25,806	7 866
1954	34	8,413	2 564	1982	85	19,617	5 979
1955	84	16,769	5 111	1983	76	20,587	6 275
1956	273	26,847	8 183	1984	20	18,614	5 673
1957	84	18,716	5 705	1985	14	12,936	3 943